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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/073,311	02/13/2002	Takahisa Kato	03560.003024	4471

5514 7590 12/05/2003

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EXAMINER

DONOVAN, LINCOLN D

ART UNIT PAPER NUMBER

2832

DATE MAILED: 12/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/073,311	KATO ET AL.	
	Examiner	Art Unit	
	Lincoln Donovan	2832	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 September 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) 6-8, 11, 12, 14, 15, 22-25, 31 and 32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 9, 10, 13, 16-21, 26-30 and 33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5, 9 and 18-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamada et al. [US 5,880,653] in view of JP 235152.

Regarding claim 1, Yamada et al. disclose an electromagnetic relay [figure 1] comprising:

- a first support member [20];
- a movable body [43];
- a pair of elastic torsion spring supporting means [42c] having a twisting longitudinal axis, the elastic supporting means supporting the movable body flexibly and rotatably about the axis to provide tilting motion relative to the first support member.
- a stationary magnetic core [11] having opposing end faces [11a, 11b];
- a magnetic coil [16] wound on the stationary core for tilting the movable body in a tilting direction about the axis; and
- a moving core [40] formed of a magnetic material provided on a portion of the movable body, disposed between the spring means and the faces of the stationary core, having at least one face opposing at least one of the faces of the stationary core.

Yamada et al. disclose the instant claimed invention except for the stationary magnetic core having faces opposed to each other in a direction perpendicular to the tilting direction with a superimposed area existing between a part of this face of the stationary portion and a part of the face of the moving core where a size of the superimposed area is changed when the movable body is tilted.

JP 235152 discloses a relay having a stationary core structure [figure 5] and a movable core structure [3] arranged such that the stationary magnetic core having faces opposed to each other in a direction perpendicular to the tilting direction with a superimposed area existing between a part of this face of the stationary portion and a part of the face of the moving core where a size of the superimposed area is changed when the movable body is tilted.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the stationary core design of JP 235152 for the core of Yamada et al. for the purpose of reducing the relay height.

Regarding claims 18-21, the specific material used to form the core members would have been an obvious design consideration based on the desired speed, necessary sensitivity, operating environment, etc.

Claims 10, 13, 16 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada et al. in view of Agatahama [US 4,553,118].

Yamada et al. disclose the instant claimed invention except for the movable core member being provided on each side of the movable body, parallel to the axis and spaced apart from each other.

Agatahama discloses a support member [300] having a movable core member being provided on each side of the movable body, parallel to the axis and spaced apart from each other.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the core support design of Agatahama for the core of Yamada et al., for the purpose of controlling the application of magnetic force thereto.

Claims 17 and 26-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada et al. in view of Lee et al. [US 6,541,831].

Yamada et al. disclose the instant claimed invention except for the movable body being formed of crystal silicon and being used as an actuator in an optical device.

Lee et al. discloses a support body supporting an optical device for use in an optical actuator.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use crystal silicon for the support body of Yamada et al. for the purpose of providing structural rigidity.

The specific optical device supported by device would have been an obvious design consideration based on the specific application.

Response to Arguments

Applicant's arguments with respect to claims 1-5, 9-10, 13, 16, 17-21, 26-30 and 33 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lincoln Donovan whose telephone number is 703 308-3111. The examiner can normally be reached on M-F 8:30-5:00.

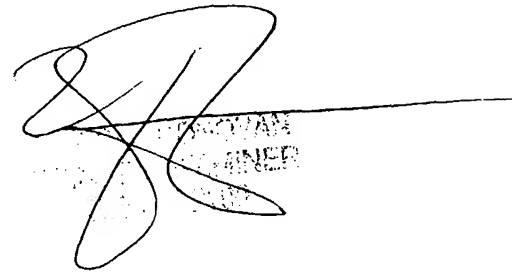
The fax phone number for the organization where this application or proceeding is assigned is 703-305-7724.

Application/Control Number: 10/073,311
Art Unit: 2832

Page 6

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1920.

Idd
12/3/03

A handwritten signature in black ink, consisting of a large, stylized 'R' or 'B' shape, is written over a circular stamp. The stamp contains the word 'RECEIVED' in a circular arrangement, with the date 'DEC 3 2003' in the center. The signature is written in a cursive, flowing style.